Abstract

Wearables, Gamified Group Challenges and Behavioral Incentives: A Preliminary Study of an Engagement Program to Increase Physical Activity

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Abstract

Background: Healthcare literature supports the development of accessible interventions that integrate behavioral economics, wearable devices, principles of evidence-based behavior change, and community support. However, there are limited real-world examples of large-scale, population-based, member-driven reward platforms. Subsequently, a paucity of outcome data exists and health economic effects remain largely theoretical. To complicate matters, an emerging area of research is defining the role of Superusers, the small percentage of unusually engaged digital health participants who may influence other members.

Objective: The objective of this preliminary study is to analyze descriptive data from GOODcoins, a self-guided, free-to-consumer engagement and rewards platform incentivizing walking, running and cycling. Registered members accessed the GOODcoins platform through PCs, tablets or mobile devices, and had the opportunity to sync wearables to track activity. Following registration, members were encouraged to join gamified group challenges and compare their progress with that of others. As members met challenge targets, they were rewarded with GOODcoins, which could be redeemed for planet- or people-friendly products.

Methods: Outcome data was obtained from the GOODcoins custom SQL database. The reporting period was December 1, 2014 to May 1, 2015. Descriptive self-report data was analyzed using MySQL and MS Excel.

Results: The study period includes data from 1298 users who were connected to an exercise tracking device. 52.6% (n=683) were female. 33.7% (n=438) were between the ages of 20-29, and 24.8% (n=322) were between the ages of 30-39. 77.5% (n=1006) of connected and active members met daily-recommended physical activity guidelines of 30 minutes, with a total daily average activity of 107 minutes (95% CI 90, 124). 96.1% (n=1248) of connected and active users engaged in walking as their primary activity. Of members who exchanged GOODcoins, the mean balance was 4,000 (95% CI 3850, 4150) at time of redemption. 50.4% (n=61) were exchanged for fitness or outdoor products, while 4.1% (n=5) were for food-related items. Participants were most likely to complete challenges when rewards were between 201-300 GOODcoins.

Conclusions: This analysis is observational, and its purpose is to form a baseline for future research. Results indicate that challenges and incentives may be effective for connected and active members, and may play a role in achieving daily-recommended activity guidelines. Registrants were typically younger, walking was the primary activity, and rewards were mainly exchanged for fitness or outdoor products. Remaining to be determined is whether members were already physically active at time of registration and are representative of healthy adherers, or were previously inactive and were incentivized to change their behavior.

As challenges are gamified, there is an opportunity to investigate the role of Superusers and their impact on behavioral norms. Study limitations and future research agendas are discussed.

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KEYWORDS

diabetes mellitus; health communication; health information management; health information technology; medical informatics; patient care management

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Multimedia Appendix 1

Extended Abstract.

[PDF File (Adobe PDF File), 472KB-Multimedia Appendix 1]

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